CLAIMS

1. A method comprising:

enabling a user to input an input string containing at least first and second languages without switching entry modes; and

converting the input string to an output string that contains the first and second languages.

2. A method as recited in claim 1, wherein the first language is a primary language and the second language is secondary language used less frequently than the primary language.

3. A method as recited in claim 1, wherein the converting comprises applying a spelling model to the input string to derive output strings that correct spelling errors in the input string.

4. A method as recited in claim 1, wherein the converting comprises applying a language model to the input string.

5. A method comprising:

enabling a user to enter phonetic text and non-phonetic text as a common string without switching modes; and

converting the phonetic text to corresponding language text, while leaving the non-phonetic text unconverted.

6. A method as recited in claim 5, wherein the phonetic text is Chinese Pinyin.

7. A method as recited in claim 5, wherein the converting comprises applying a spelling model to the input string to derive output strings that correct spelling errors in the input string.

8. A method as recited in claim 5, wherein the converting comprises applying a language model to the input string.

9. A method comprising:

receiving an input string containing at least first and second languages; and

determining at least one candidate string in the first language that may be used to replace the input string based on a probability of how likely the first candidate string was incorrectly entered as the input string in the first language.

10. A method as recited in claim 9, further comprising selectively performing one of (1) converting the input string to the candidate string in the first language, or (2) leaving the input string in the second language.

11. A method as recited in claim 9, wherein the first language is a primary language and the second language is secondary language used less frequently than the primary language.

12. A method as recited in claim 9, wherein the input string of the first language comprises phonetic text and the input string of the second language comprises non-phonetic text.

13. A method as recited in claim 9, wherein the first language is Chinese and the second language is English.

14. A method comprising:

receiving an input string containing at least first and second languages;

determining at least one first candidate string that may be used to replace the input string based on a first probability of how likely the first candidate string was incorrectly entered as the input string in the first language;

determining at least one second candidate string that may be used to replace the input string based on a second probability of how likely the second candidate string was incorrectly entered as the input string in the second language;

using the first candidate string if the first probability is higher than the second probability to derive at least one output string containing the first language; and

using the second candidate string if the first probability is lower than the second probability to derive at least one output string containing the second language.

15. A method as recited in claim 14, wherein the first language is a primary language and the second language is secondary language used less frequently than the primary language.

16. A method as recited in claim 14, wherein the input string of the first language comprises phonetic text and the input string of the second language comprises non-phonetic text.

17. A method as recited in claim 14, wherein the first language is Chinese and the second language is English.

18. A method as recited in claim 14, wherein the input string is a combination of Chinese Pinyin and English, and the output string is a combination of Chinese Hanzi and English.

19. A method as recited in claim 14, further comprising obtaining the first and second candidate strings from a database.

20. A method as recited in claim 14, further comprising:

deriving the first probability that the first candidate string was incorrectly entered as the phonetic string from data collected from multiple users entering a training text in the first language; and

deriving the second probability that the second candidate string was incorrectly entered as the phonetic string from data collected from multiple users entering a training text in the second language.

21. A method as recited in claim 14, further comprising displaying the output string in line with the input string being entered by a user.

22. One or more computer-readable media having computer-executable instructions that, when executed on a processor, direct a computer to perform the method as recited in claim 14.

23. A method comprising:

allowing entry of an input string containing at least first and second languages without switching modes for entry of the first and second languages;

determining probable candidate strings in at least one of the first and second languages that may be used to replace the input string based on probabilities of how likely each of the candidate strings was incorrectly entered as the input string;

selectively performing, based on the probabilities, one of (1) converting the input string to an output string in the first language and outputting the output string, or (2) outputting the input string in the second language.

24. A method as recited in claim 23, further comprising:

displaying the input string containing the first and second language in a single edit line; and

selectively displaying the output string or the input string in the single edit line.

25. A method as recited in claim 23, wherein the first language is Chinese and the second language is some language other than Chinese.

26. A language input architecture comprising:

a user interface that enables a user to input an input string containing at least first and second languages without switching entry modes; and

a converter to convert the input string to an output string that contains the first and second languages.

27. A language input architecture as recited in claim 26, wherein the first language is a primary language and the second language is secondary language used less frequently than the primary language.

28. A language input architecture as recited in claim 26, wherein the converter comprises a spelling model to correct spelling errors in the input string.

29. A language input architecture as recited in claim 26, wherein the converter comprises a language model to analyze the input string within a context of surrounding strings.

30. A language input architecture as recited in claim 26, wherein the converter comprises:

a typing model to generate a list of probable typing candidates that may be substituted for the input string based on typing error probabilities of how likely each of the candidate strings was incorrectly entered as the input string; and

a language model to provide output strings for each of the typing candidates.

31. A language input architecture comprising:

a typing model to receive an input string and determine a typing error probability of how likely a first candidate string was incorrectly entered as the input string, the typing model being trained in a first language; and

a language model to provide output strings for each of the typing candidates, the language model being trained in a second language.

32. A language input architecture as recited in claim 31, wherein the first language is a primary language and the second language is secondary language used less frequently than the primary language.

33. A language input architecture comprising:

a first typing model to receive an input string and determine a first typing error probability of how likely a first candidate string was incorrectly entered as the input string;

a second typing model to receive the input string and determine a second typing error probability of how likely a second candidate string was incorrectly entered as the input string; and

a search engine to select one of the first and second candidate strings with a highest typing error probability.

34. A language input architecture as recited in claim 33, wherein the first typing model is trained using a first language and the second typing model is trained using a second language.

35. A language input architecture as recited in claim 33, wherein the input string contains phonetic text and non-phonetic text and the first typing model is trained to the phonetic text and the second typing model is trained to the non-phonetic text.

36. A language input architecture as recited in claim 33, wherein the first typing model is trained using Chinese and the second typing model is trained using English.

37. A language input architecture as recited in claim 33, wherein the input string contains Pinyin and English and the first typing model is trained to the Pinyin and the second typing model is trained to the English.

38. A language input architecture as recited in claim 33, further comprising a language model to provide an output string for the selected typing candidate.

39. A language input architecture as recited in claim 38, wherein the search engine converts the input string to the output string.

40. A language input architecture as recited in claim 38, further comprising a user interface to receive the input string and to display the output string in a common edit line.

41. A word processor embodied on a computer-readable medium comprising the language input architecture as recited in claim 33.

~~42.~~ A language input architecture comprising:

a user interface to receive an input string written in a combination of phonetic text and non-phonetic text;

a first typing model to produce probable first typing candidates written in the phonetic text that may be substituted for the input string based on typing error probabilities of how likely each of the first candidate strings was incorrectly entered as the input string;

a second typing model to produce probable second typing candidates written in the non-phonetic text that may be substituted for the input string based on typing error probabilities of how likely each of the second candidate strings was incorrectly entered as the input string;

a language model to provide possible conversion strings written in language text for the first typing candidates written in the phonetic text; and

a search engine configured to selectively (1) convert the input string to one of the conversion strings so that the phonetic text is replaced with the language text, or (2) output one of the second candidates so that the non-phonetic text is maintained without conversion.

43. A language input architecture comprising as recited in claim 42, wherein the search engine converts the input string to one of the conversion strings when the first probability is higher than the second probability.

44. A language input architecture comprising as recited in claim 42, wherein the search engine outputs one of the second candidates when the first probability is lower than the second probability.

45. A language input architecture comprising as recited in claim 42, wherein the phonetic text is a first language and the non-phonetic text is a second language.

46. A language input architecture comprising as recited in claim 42, wherein the phonetic text is Pinyin and the non-phonetic text is English.

47. One or more computer-readable media having computer-executable instructions that, when executed on a processor, direct a computer to:

~~**48.**~~ One or more computer-readable media having computer-executable instructions that, when executed on a processor, direct a computer to:

enable a user to enter phonetic text and non-phonetic text as a common string without switching modes; and

convert the phonetic text to corresponding language text, while leaving the non-phonetic text unconverted.

49. One or more computer-readable media having computer-executable instructions that, when executed on a processor, direct a computer to:

allow entry of an input string containing at least first and second languages without switching modes for entry of the first and second languages;

determine probable candidate strings in at least one of the first and second languages that may be used to replace the input string based on probabilities of how likely each of the candidate strings was incorrectly entered as the input string;

selectively perform, based on the probabilities, one of (1) converting the input string to an output string in the first language and outputting the output string, or (2) outputting the input string in the second language.

50. One or more computer-readable media having computer-executable instructions that, when executed on a processor, direct a computer to:

receive an input string containing phonetic text and non-phonetic text;

determine at least one first candidate string written in the phonetic text that may be used to replace the input string based on a first probability of how likely the first candidate string was incorrectly entered as the input string;

determine at least one second candidate string written in the non-phonetic text that may be used to replace the input string based on a second probability of how likely the second candidate string was incorrectly entered as the input string in the second language;

associate possible conversion strings written in language text for the first typing candidates written in the phonetic text;

convert the input string to the conversion string associated with the first candidate string if the first probability is higher than the second probability so that the phonetic text is converted to the language text; and

output the second candidate string if the first probability is lower than the second probability so that the non-phonetic text remains unconverted.